April 26, 2007

Colonel Brian W. Lauritzen
Garrison Commander, Fort Belvoir
Attn: EIS Comments, Directorate of Public Works
9340 Jackson Loop, Suite 100
Fort Belvoir, Virginia 23060

RE: Draft Environmental Impact Statement and Federal Consistency Determination for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia
DEQ-07-032F

Dear Colonel Lauritzen:

The Commonwealth of Virginia has completed its review of the above Draft Environmental Impact Statement ("Draft EIS"). The Department of Environmental Quality ("DEQ") is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act ("NEPA") and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency determinations submitted pursuant to the Coastal Zone Management Act and providing the state's response. The following agencies joined in this review:

Department of Environmental Quality
Department of Game and Inland Fisheries
Department of Conservation and Recreation
Department of Health
Department of Transportation
Marine Resources Commission
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry.

In addition, the Northern Virginia Regional Commission and Fairfax County were invited to comment. DEQ understands that Fairfax County is commenting directly to the Army on this matter.

Project Description

The Army intends to update the Fort Belvoir land use plan and carry out base realignment actions mandated by the 2005 enactment of the Base Realignment and Closure ("BRAC") Commission recommendations. The implementation of these actions would result in a net increase of approximately 22,000 people in Fort Belvoir's work force (Draft EIS, pages ES-2 and ES-3, sections ES.4.1. and ES.4.2), along with the redevelopment of approximately 7 million square feet of office and building space (1/31/07 meeting, Army/DEQ and state agencies). The EPG area, situated to the west of Interstate Route 95 and away from the rest of the Fort, would be put to greater use. A number of units, agencies, and activities would be moved to Fort Belvoir from other locations, resulting in 20 construction projects and creating approximately 73 acres of impervious surfaces (Draft EIS, page 2-14, Table 2-3). A "no-action" alternative is presented for comparison with existing conditions (Draft EIS, page ES-6, section ES.5.6 and page 3-14, section 3.5).

The Draft EIS presents three alternative land use plans, each intended to achieve the need for increased space for realigned functions at Fort Belvoir. These are described as:

- the Town Center Alternative, in which most new construction projects would be sited between J.J. Kingman Road on North Post and 12th Street on South Post, leaving the EPG, Davison Army Airfield, and other areas available for future growth after 2011 (pages 3-2 and 3-3, section 3.3.1; see Figures 3.1 and 3.2);

- the City Center Alternative, in which all new facilities would be sited on EPG and a 65-acre parcel nearby known as the GSA Parcel. Leaving North and South Posts available for future growth (pages 3-3 through 3-9, section 3.3.2; see Figures 3.3 and 3.4); and

- the Satellite Campuses Alternative, in which new facilities would be sited on Davison Army Airfield, the North Post golf course, and North and South Posts (pages 3-9 through 3-13, section 3.3.3; see Figures 3.5 and 3.6).

The Draft EIS indicates the Army's determination that any of these alternative strategies would be inadequate by itself, and states the Army's preference for

relocation of the Troop Area from North Post to an industrial part of the South Post, with the present Troop Area becoming "Professional/Institutional" (see Figure 2-4, page 2-10). A status-quo alternative, if delayed implementation is necessary, would be to keep the Troop Area and Industrial Areas where they are (Draft EIS, page 3-13, section 3.3.4).

Specific facility construction and renovation projects are also listed (Draft EIS, page 2-14, Table 2-3) and described (pages 2-17 through 2-24); reference is made to some of these as appropriate in the discussions which follow.

The Draft EIS also contains a federal consistency determination pursuant to the Coastal Zone Management Act (Appendix C).

Environmental Impacts and Mitigation

1. Natural Heritage Resources. The Department of Conservation and Recreation (DCR) has searched its Biotics Data System for occurrences of natural heritage resources in the project area. "Natural heritage resources" are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations. On the basis of this search and its review of the Draft EIS, DCR provides the following guidance for the planning stages of the BRAC action. Upon review of more specific development plans, DCR will be able to provide more detailed recommendations.

(a) Conservation Sites and Related Resources. According to the information in DCR files, several conservation sites are located within the project area. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Polygons are built around one or more rare plant, animal, or natural communities and are designed to include the element and, where possible, its associated habitat, and buffers or other adjacent land thought necessary for the element's conservation. Conservation sites are given a bio-diversity significance ranking based on the rarity, quality, and number of element occurrences they contain, on a scale of 1-5, 1 being most significant. The conservation site names, bio-diversity ranks, and natural heritage resource(s) of concern associated with the sites are listed below:

- Pohick/Accotink Wetlands Conservation Site- B3 (high significance)
    - coastal plain/piedmont acidic seepage swamp
    - mesic mixed hardwood forest

  - tidal freshwater marsh
  - sphagnum sprite (*Nehalennia gracilis*, G5/S1S2/NL/NL)
  - vetchling (*Lathyrus palustris,* G5/S1/NL/NL)
  - a sedge (*Carex vestita,* G5/S2/NL/NL)
  - river bulrush (*Schoenopletus Fluviatilis,* G5/S2/NL/NL)
  - water-plaintain spearwort (*Ranunculus ambigens***,** G4/S1/NL/NL)

- Huntley Meadows- B5 (general significance)
  - Purple milkweed (*Asclepias purpurascens,* G5?/S2/NL/NL)

- Meadow-Thompson Creek Conservation Site- B3 (high significance)
  - mesic mixed hardwood forest

- Area T-17 Ravines Conservation Site- B3 (high significance)
  - Northern Virginia well amphipod (*Stygobromus phreaticus,* G2G3/S1/SOC/NL)

- Dogue Creek Conservation Site- B5 (general significance)
  - Wood turtle (*Glyptemys insculpta*, G4/S2/NL/LT)

(b) Plant and Insect Species. Under a memorandum of agreement with the Department of Agriculture and Consumer Services (VDACS), DCR represents VDACS in commenting on potential impacts of projects upon state-listed endangered and threatened plant and insect species.

(i) Small Whorled Pogonia. The small whorled pogonia (*Isotria medeoloides*, G2/S2/LT/LE) has also been recently documented at Fort Belvoir. This plant is classified as threatened by the United States Fish and Wildlife Service (USFWS) and as endangered by the Virginia Department of Agriculture and Consumer Services (VDACS). Due to the protected status of small whorled pogonia, DCR recommends that the plant be avoided in planning for development. DCR also recommends that the Army coordinate with USFWS and the Department of Game and Inland Fisheries (DGIF) to ensure compliance with protected species legislation; see "Regulatory and Coordination Needs," item 3, below).

(ii) Other Plant Species. According to DCR, Parker's pipewort (*Eriocaulon parkeri,* G3/S2/Nl/NL) and river bulrush (*Schoenopletus Fluviatilis,* G5/S2/NL/NL) have also been documented within Fort Belvoir.

(c) Animal Species: Wood Turtle. According to DCR, the wood turtle has been documented at the Po Road Bridge and in Accotink Creek. The wood turtle

is classified as threatened by the Virginia Department of Game and Inland Fisheries (DGIF). Due to the protected status of the wood turtle, DCR recommends coordination with DGIF to ensure compliance with protected species legislation (see "Regulatory and Coordination Needs," item 3, below).

(d) Recommendations. The Department of Conservation and Recreation recommends several measures to mitigate or avoid impacts upon natural heritage resources.

(i) Avoid Significant Natural Communities. First, DCR recommends avoidance of the significant natural communities listed above (see *Technical Report for the U.S. Army Fort Belvoir 96-03*, 1996).

(ii) Avoid Wetlands in the Southwest Training Area. These wetlands, especially the beaver pond, should be avoided. Training activities in these wetlands could cause significant impacts to their hydrology and affect the sphagnum sprite found there. Avoiding wetland impacts will also protect the viability of the rare wetland plants mentioned above (see item 1(b), above).

(iii) Maintain the Seepage Swamp Habitat.

(iv) Avoid Training Area T-17. This area should be avoided because of possibly significant impacts to the Northern Virginia well amphipod; the area includes the only known extant population of this species on a global scale.

(v) Minimize Impacts to Aquatic Ecosystems. To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR also recommends the implementation of and strict adherence to erosion and sediment control measures during all land-disturbing activities.

2. Wildlife Resources. The Department of Game and Inland Fisheries, as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species, but excluding listed insects. The Department (hereinafter "DGIF") is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S.C. sections 661 et seq.), and provides environmental analysis of projects or permit applications coordinated through the Department of Environmental Quality and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts.

(a) Concerns with regard to the Land Use Plan Update. In connection with the discussions and figures on the proposed Land Use Plan Update, the Department of Game and Inland Fisheries ("DGIF") notes that areas previously designated for outdoor recreation and as environmentally sensitive are to be given designations such as "Community," "Airfield," and "Professional/ Institutional" (see Draft EIS, pages 2-2 through 2-7, sections 2.2.1.1 and 2.2.1.2 and Figures 2-1 and 2-2; also page 4-18, section 4.2.2.1). While the Draft EIS states that the newly designated areas could be used for activities not requiring construction and that the environmentally sensitive areas will retain regulatory protection (page 2-7, third bullet paragraph, "Open Space" heading), DGIF is concerned that areas previously designated as open space may be subject to development pressure. The EPG area includes the Accotink drainage, which provides wild habitat that should be protected. DGIF notes that the existing land use plan, retaining sensitive and outdoor space designations, included areas designated for future development; this suggests that the increase of development acreage of approximately 800 acres, in the Preferred Alternative land use plan (see page 4-18, section 4.2.2.1), is not necessary.

In addition, DGIF questions whether the change in designation of these areas is consistent with the Integrated Natural Resources Management Plan (INRMP) developed for Fort Belvoir. Under the Sikes Act, there may be a requirement that the state wildlife agency (DGIF) and the U.S. Fish and Wildlife Service be consulted on proposed changes to the Land Use Plan that would alter the designation of areas known to provide habitat for wildlife, particularly threatened and endangered species.

The Draft EIS indicates that the Fort supports some ecologically sensitive and unique areas (page 4-257, section 4.8). DGIF recommends that the Army review the INRMP to ensure that activities proposed for Fort Belvoir are consistent with previously agreed-upon management activities for the wildlife and habitat available on the Fort.

(b) Recommendations on the Land Use Plan Update. As a general matter, the more open space there is, the more wildlife habitat is available and the greater the protection for the watershed. The designation of areas on the Fort as open space and/or natural resource protection areas may, if protected and situated properly within the landscape, provide corridors for wildlife movement and linkages between habitats. Such areas should, in the judgment of DGIF, include the environmentally sensitive areas, wetlands, and riparian buffers consistent with Resource Protection Areas (RPAs; see "Federal Consistency," item 4(a), below).

(c) MWR Family Travel Camp. Each of the alternative plans includes a proposed MWR ("Morale, Welfare, and Recreation;" see Draft EIS, page 2-14, Table 2-3) Family Travel Camp, to be situated near the shoreline in the southwestern part of South Post (project #20; see Draft EIS, Figures 2-6 (page 2-15), 3-2 (page 3-5), 3-4 (page 3-8), and 3-6 (page 3-12). This facility may affect waterfowl hunting zone 2, and/or areas that are hunted for deer and turkey. In addition, it might affect bald eagle nesting and/or concentration areas. Accordingly, DGIF recommends that the Army coordinate with DGIF regarding this site, to allow additional review of its impacts on wildlife and hunting opportunities in the area; see "Regulatory and Coordination Needs," item 3, below.

(d) Surface Water Quality Best Management Practices ("BMPs"). The Draft EIS discusses a number of recommended BMPs but does not commit the Army to avoidance of in-line BMPs (pages 4-232 and 4-233, section 4.7.2.4.1). DGIF supports the use of stormwater management practices and of erosion and sediment controls during construction, but does not support the use of in-line BMPs.

(i) Stormwater Controls and BMPs; Low-Impact Development. Stormwater controls should be designed to replicate and maintain the hydrographic condition of the site before the change in landscape. This should include, but not be limited to, use of bio-retention areas and minimizing the use of curb and gutter in favor of grassed swales.

Bio-retention areas (also called rain gardens) and grassed swales are components of Low-Impact Development (LID), as the Draft EIS mentions (page 4-233, section 4.7.2.4.1). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes. DGIF encourages the use of LID practices.

(ii) Mitigation Measures for In-stream Activities. If in-stream activities must be undertaken, DGIF recommends the following mitigation measures:

- conduct any in-stream activities during low or no-flow conditions;
- use non-erodible cofferdams to isolate the construction area;
- block no more than 50% of the streamflow at any given time;
- stockpile excavated material in a manner that prevents its re-entry into the stream;
- restore the original streambed and streambank contours;

- re-vegetate barren areas with native vegetation; and
- implement strict erosion and sediment control measures (see item 7, below).

(iii) Stream Crossings. Due to future maintenance costs and the loss of riparian and aquatic habitat associated with culverts, DGIF prefers stream crossings to be constructed via clear-span bridges. However, if this is not possible, DGIF recommends countersinking any culverts below the streambed at least 6 inches, or using "bottomless culverts," to allow passage of aquatic organisms. In addition, floodplain culverts should be installed to carry bankfull discharges.

(e) Wildlife Habitat Protection.

(i) Habitat Impacts. As the Draft EIS states (page 4-269, section 4.8.2.1.2), many areas currently vegetated, and therefore providing wildlife habitat, will be converted into developed areas pursuant to the BRAC mandate. Development of these areas will result in lost habitat connectivity and increase the likelihood of invasive vegetation and possibly invasive wildlife species in the area. DGIF recommends preservation of like areas as mitigation for loss of this habitat, and development of an invasive species control and/or management strategy to address the matter.

(ii) Animal Species. As the Draft EIS indicates (pages 4-261 through 4-264, section 4.8.1.4), Fort Belvoir habitat supports a number of species of mammals, birds, reptiles, and amphibians. DGIF recommends the maintenance of open space on the Fort for these species. In particular, the provision of stop-over or resting habitat is very important in Northern Virginia. Thus in addition to recommending adherence to the management practices in the Fort Belvoir INRMP (see above, item 2(a)), the Department of Game and Inland Fisheries recommends the following, to the greatest extent practicable:

- maintaining wooded lots
- minimizing impacts upon forests, streams, and wetlands
- maintaining riparian buffers.

In addition, DGIF recommends continued survey activities throughout the Fort to determine what species exist there, what habitat they are using, and to monitor any changes in these populations as the BRAC activities proceed. DGIF also recommends coordination with its regional wildlife biologists so that wildlife populations can be managed through hunting activities; see "Regulatory and Coordination Needs," item 3, below.

(f) Anadromous Fish Use Areas: Recommendations.

(i) Listing. The following have been designated Anadromous Fish Use Areas:

- Accotink Creek
- Dogue Creek
- Pohick Creek
- Potomac River.

Anadromous fish are particularly sensitive to sedimentation and noise (percussion, vibration). Activities that create such stressors may result in adverse impacts upon anadromous fish species, and upon their ability to migrate through and spawn in these waters.

(ii) Recommendations. DGIF recommends coordination by the Army for any projects which might give rise to impacts on these waterways; see "Regulatory and Coordination Needs," item 3, below. Recommendations resulting from this coordination are likely to include time-of-year restrictions or activity restrictions for the protection of these areas. It is important that these waters remain free of impediments and that the water quality be maintained.

(g) Endangered and Threatened Species. According to the Department of Game and Inland Fisheries, several species are of particular concern at Fort Belvoir. This discussion lists the species, their status, and where they are found and provides recommendations and requirements for the protection.

(i) Bald Eagles. Bald eagles (listed as threatened by state and federal governments) have nests known to be in the southwest area and the South Post. In addition, much of the Potomac River shoreline, including the shores of Accotink Bay and Pohick Bay, are designated Concentration Zones for this species.

According to the *Bald Eagle Protection Guidelines for Virginia* (available on the Department of Game and Inland Fisheries web site, www.dgif.virginia.gov), any projects within 1,320 feet (0.25 mile) of a bald eagle nest may result in impacts upon the species. Projects located within this zone may be subject to time-of-year restrictions, activity restrictions, or other conservation measures. The concentration zone is also afforded some protection. Moreover, any activity within 750 feet of the shoreline may result in impacts upon the bald eagle, and this area may require the same project limitations as the 1/4 mile boundary above.

The proposed Family Travel Camp appears to be proposed for areas that might include bald eagle concentration (foraging) and nesting areas (Draft EIS, page 2-24, section 2.2.2.3; see item 2(c), above); thus this project might affect the species. It is particularly important, therefore, that the Army consult with DGIF regarding this project in particular, as well as consulting with DGIF and the U.S. Fish and Wildlife Service for any projects within 750 feet of the shoreline and, in any case, for projects within 1/4 mile of bald eagle nests. See "Regulatory and Coordination Needs," item 3, below.

(ii) Wood Turtles. Wood turtles (listed as threatened by the state government) have been documented on the North Post, Dogue Creek, and an unnamed tributary to Dogue Creek. The Creek and its tributary have been designated as Threatened and Endangered Species Waters due to the presence of the wood turtle. Wood turtles have also been known from the Accotink drainage, although none have been documented from Accotink Creek on Fort Belvoir. Wood turtles use clear brooks and streams during hibernation, but also wander in riparian areas for forging and nesting during warmer months.

For projects likely to affect these waters and/or riparian areas within 600 feet of them, the Army should coordinate with the Department of Game and Inland Fisheries (see "Regulatory and Coordination Needs," item 3, below). DGIF is likely to recommend that the Army, for any such project:

- Adhere to time-of-year restrictions for certain activities;
- Educate contractors regarding the wood turtle;
- Undertake survey activities; and/or
- Follow other conservation recommendations.

In addition, DGIF recommends that the Army maintain at least a 100-foot riparian buffer for all streams and wetlands, and a 600-foot buffer for streams known to support wood turtles.

(iii) Peregrine Falcon. The peregrine falcon (listed as threatened by the state government) may occur at Fort Belvoir, as the Draft EIS indicates (page 4-266, section 4.8.1.5.3), but DGIF has not currently documented any nesting sites on the Fort, and does not anticipate any impacts to this species from BRAC developments.

(iv) Northern Virginia Well Amphipod. The Northern Virginia well amphipod, a federal species of concern (Draft EIS, page 4-266, section 4.8.1.5.5), has been documented on the South Post. Threats to this species

include groundwater degradation. The species and its habitat should be considered as BRAC actions proceed.

(v) Shortnose Sturgeon. The shortnose sturgeon is known in the Potomac River. The recommendations for anadromous fish waters (see item 2(f)(ii), above) also apply for the protection of this species.

(h) Additional Wildlife Information. DGIF maintains a data base of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented by DCR (item 1, above). Access to this data base may be obtained through the DGIF web site:

http://www.dgif.virginia.gov/wildlife/info_map/index.html

Questions on this web site may be addressed to the Department of Game and Inland Fisheries (Shirl Dressler, telephone (804) 367-6913).

3. Air Quality.

(a) General Comments. Fort Belvoir is in the Washington Metropolitan Area, which has been designated a non-attainment area for two National Ambient Air Quality Standards ("NAAQS"), specifically the 8-hour ozone standard and the fine particulate standard. Because of this non-attainment status, a general conformity analysis for the proposed BRAC projects is required by section 176(c) of the federal Clean Air Act, according to DEQ's Air Quality Division.

(i) Requirements. The ozone precursor emissions increases from the proposed projects will exceed the general conformity thresholds for the area. For this reason, a determination must be made that the action conforms to the applicable air quality plan and supports the overall goal of air quality standard compliance in the area. Accordingly, project emission increases must be directly offset by equivalent reductions, or otherwise accounted for in the regional air quality planning process. The construction phase of the BRAC projects coincides with a period in which the Washington area must demonstrate compliance with both the 8-hour ozone and the fine particulate matter standards.

(ii) Shortcomings in the Draft EIS. The Draft EIS offers no proposed mitigation measures to lessen the impact of construction emissions during the critical attainment period mentioned above (item 3(a)(i)). There is also no discussion of toxic air pollutant emissions and impacts; at a minimum, the

Final EIS should include an estimate of current and future total hazardous air pollutant emissions, along with an evaluation of regulatory applicability.

The Draft EIS and conformity analysis (Appendix E) identifies stationary source equipment and motor vehicles as the only sources of operational emission increases from the projects. There is no mention of anticipated emissions increases in sources such as consumer products, solvent usage, gasoline distribution, landscaping, aircraft operations, and perhaps others. The Final EIS should address all sources of air pollution and protected emissions increases.

(iii) Phasing and Discussion. The impacts and emissions increases from the projects occur in distinct phases and from several air pollution source categories. Therefore, the remaining air quality discussion is categorized in the same manner, i.e., temporary construction impacts and operation impacts.

(b) Construction Phase.

(i) Impacts. The temporary air pollutant increases from the five-year construction phase are by far the largest in terms of mass emissions, with the largest impact occurring in 2010 (374 tons of oxides of nitrogen (NO_x) and 238 tons of volatile organic compounds (VOC)). Lesser, but still significant, levels are predicted for each year during the period from 2007 to 2011. In addition to the coinciding period of demonstrating compliance with the NAAQS, the project area is generally upwind of one of the worst-case ozone monitors in the non-attainment area, located at Mount Vernon. This monitor has an ozone design value of 90 parts per billion, the highest in Northern Virginia.

(ii) Conformity. The Army proposes to demonstrate conformity for the construction phase and resulting emissions by comparing them to the current 1-hour and pending 8-hour ozone State Implementation Plan (SIP) regional emission estimates for non-road (NO_x) and area (VOC) sources to demonstrate that they are:

1) not significant at the regional level, and
2) can be reasonably assumed to be included in the regional estimates for non-road and area sources.

While previous EPA actions may have set precedents for using this method, the method has not yet been accepted by EPA Region III for the purpose of demonstrating general conformity for this particular project and situation. The Army should therefore continue to explore all available means to demonstrate

conformity for the construction phase in the event the proposed method is not acceptable.

(iii) Recommendations. DEQ's Air Quality Division recommends that the Army include, and commit to implement, a construction performance contract plan in the Final EIS. The plan should include all reasonable emission control measures to minimize the impact of the construction activities related to the BRAC projects. The measures to be considered should include, but not be limited to:

1. The exclusive use of new diesel engine standard-compliant or control device-retrofitted heavy construction equipment;
2. Strict restriction of equipment idling times; and
3. Restriction or prohibition of construction on days when high ozone levels are predicted in the area. At a minimum, this should be done on predicted "Code Red" ozone days.

(iv) Regulatory Requirements for Construction. The construction projects should be accomplished in full compliance with current and pending Virginia requirements, through the use of compliant practices and/or products. See "Regulatory and Coordination Needs," item 1(a), below.

(b) Operations Phase. Most air quality impacts from the completed Fort Belvoir projects will be generated from increased local motor vehicle traffic and stationary source equipment operation to support the new facilities on base.

(i) Evaluation of Transportation Impacts. To fully evaluate air quality impacts from the Fort Belvoir BRAC projects and other BRAC undertakings in the Washington area, the best and most current employment and traffic projections must be compiled and provided to the Metropolitan Washington Council of Governments' Transportation Planning Board ("TPB"). These projections are then incorporated into the next regional transportation conformity determination for the Washington, D.C. non-attainment area. In this way, the overall transportation impact of the BRAC projects can be determined and demonstrated to conform to the SIP.

(ii) Mitigation of Transportation Effects. DEQ's Air Quality Division recommends that all reasonable congestion mitigation practices should be employed to reduce transportation impacts on air quality; these should include ozone action days, codes orange and red telecommuting, and public transportation.

(iii) Evaluation of Stationary Source Impacts. Stationary source equipment to support the new facilities contemplated under BRAC will be subject to different regulatory requirements, depending on the final project configuration. Requirements in the Virginia Regulations for the Control and Abatement of Air Pollution for major new source review for non-attainment areas (Article 9, 9 VAC 5-80-2000 et seq.) or minor new source review (Article 6, 9 VAC 5-80-1100 et seq.) will apply. The current estimate of the preferred alternative predicts that emissions will be below the major source threshold; therefore, minor new source review would apply. However, DEQ would still be required to find that the emissions increases are accounted for in the applicable SIP. See "Regulatory and Coordination Needs," item 1, below.

(iv) Mitigation of Stationary Source Effects. According to DEQ's Air Quality Division, the Army should consider control devices and/or strategies to further reduce the emissions from stationary source equipment, even if such devices would not be required by the applicable permitting process.

4. Solid and Hazardous Waste Management. According to DEQ's Waste Division, both solid and hazardous waste issues and sites were addressed in the Draft EIS, and the Draft EIS included a search of waste-related data bases.

(a) Findings. Fort Belvoir is listed in several ways under applicable waste management laws and regulations:

- The Fort is on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list (identification number VA5210020082) as Fort Belvoir, Fairfax County, Virginia (not on the National Priorities List (NPL);

- The Fort is a large-quantity generator of hazardous waste, as well as a treatment, storage, and disposal facility (identification number VA7213720082), listed as U.S. Army Engineering Center, Fort Belvoir, LQG and TSD.

According to DEQ's Northern Virginia Regional Office, the GSA Parcel (EPA identification number VA4470039336) was returned to compliance on February 15, 2007. All 12 violations were resolved.

Fort Belvoir has several solid waste sites, listed as follows:

- U.S. Army, Fort Belvoir, PBR 164, RMW (regulated medical waste) Steam Sterilizer;

- U.S. Army, Fort Belvoir, PBR 248, RMW Steam Sterilizer
- U.S. Army, Fort Belvoir, SWP 308, Closed Sanitary Landfill; and
- U.S. Army, Fort Belvoir, SWP 490, Closed CDD (Construction demolition and debris) Landfill.

(b) Information on Waste Sites. The following web sites may be helpful in locating additional information for these identification numbers:

- http://www.epa.gov/echo/search_by_permit.html
- http://www.epa.gov/enviro/html/rcris/rcris._query_java.html

(c) Historical Records Review Highlights. A Historical Records Review was completed by the Army at Fort Belvoir in March 2006, according to DEQ's Waste Division, Federal Facilities Restoration Program Office. This review is a step in the remediation process pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act. The Army submitted a work plan in September 2006 in order to determine the presence or absence of munitions and explosives of concern (MEC) and munitions constituents (MC) that may remain from earlier activities at these sites and that may pose a threat to human health and/or the environment. See "Regulatory and Coordination Needs," item 6(b), below.

(i) Results: Military Munitions Restoration Program (MMRP) Sites. The Historical Records Review indicates 21 sites eligible for the Military Munitions Restoration Program, of which 20 are on the Main Post. The additional site is on the EPG, which itself contains 10 range areas.

(ii) Results: Solid Waste Management Units (SWMUs). The Historical Records Review indicates 19 SWMUs on the Main Post. One such unit, SWMU A-12, Accotink Landfill, is on both the Grenade Court and the Small Arms Range Complex Range Areas.

(iii) Other Results of Historical Records Review. The U.S. Army Toxic and Hazardous Materials Agency completed an environmental baseline study at the EPG. The Phase II portion of the baseline study indicated 44 SWMUs and 12 Areas of Potential Concern at the EPG.

(d) Solid Waste Permitting Status. The Fort has four solid waste management facilities that have permits or are in the process of obtaining them from DEQ. These facilities, and their status, are:

- SWP 308, Cullum Road Sanitary Landfill. This is closed and in post-closure monitoring.
- SWP 490, Theote Road C&D (Construction and demolition) Landfill. Same status as previous landfill.
- PBR 164, Dewitt Hospital, which performs steam sterilization of regulated medical waste.
- DCEETA. Currently applying for a permit-by-rule for an incinerator.

See "Regulatory and Coordination Needs," item 6(c), below.

(e) Demolition or Renovation of Structures. Structures to be demolished, renovated, or removed should be checked for asbestos-containing materials and for lead-based paint prior to demolition. Appropriate measures must be taken if either or both substances are found; see "Regulatory and Coordination Needs," item 6(d), below.

(f) Child Care Facility Construction. The Army proposes to build two new child-care facilities on the EPG (Child Development Centers #55661 and 55662) (Draft EIS, page 2-21, section 2.2.2.3). The risk assessments to be performed for this area, especially for child-care facilities, should include the appropriate risk pathways and assumptions used for child-care facilities, according to DEQ's Northern Virginia Regional Office.

(g) Pollution Prevention. DEQ encourages the Army to implement pollution prevention principles in all construction projects and facilities. These principles include reduction of waste materials at the source, re-use of materials, and recycling of solid wastes. Hazardous waste generation should also be minimized, and hazardous wastes handled appropriately under state and federal law. See also item 14, below.

DEQ's Northern Virginia Regional Office notes that approximately 8,410 tons of construction and demolition (C&D) debris will be generated from the proposed action and disposed of at various landfills in the area (Draft EIS, page 4-458, section 4.15). To reduce the impact of this large quantity of C&D waste, the Army should promote the beneficial re-use or recycling of it by sending it to a material recovery facility instead of to landfills.

5. Water Quality and Wetlands.

(a) Impacts. The Draft EIS makes reference to potential "increases in stormwater runoff, associated physical effects, and associated pollutants from land disturbance activities" (page ES-10, section ES.6.6). The project

alternatives are likely to affect Chesapeake Bay Resource Protection Areas (RPAs) (see "Federal Consistency…," item 4(a), below) as follows:

Satellite Campus Alternative --	40 acres;
Preferred Alternative --	14 acres;
City Center Alternative --	18 acres.

In addition, the document shows a number of riparian areas within 35 feet of an intermittent or perennial stream, and states that new development must be minimized in such areas (Draft EIS, page 4-223, section 4.7.1.5.1, referring to Figure 4.7-1, page 4-205). The Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance notes that Resource Protection Areas (RPAs) include "a buffer area not less than 100 feet in width located adjacent to and landward of" RPA features (Chesapeake Bay Preservation Area Designation and Management Regulations, 9 VAC 10-20-10 et seq., specifically 9 VAC 10-20-80 B.5.; see also "Federal Consistency…," item 4(a), below).

(b) Permitting. The Draft EIS indicates that surface waters are present within project limits, and impacts to surface waters are proposed. Accordingly, a Virginia Water Protection Permit will be required for the projects. See "Regulatory and Coordination Needs," item 2, below.

(c) General Impacts. The primary impacts on water resources from these projects will be caused by increases in impermeable surfaces, changes to stormwater hydrographs, erosion and sedimentation increases during construction, and increases in non-point source runoff after construction. DEQ's Division of Water Resources does not have a preference among the alternatives described in the Draft EIS.

(d) Wetlands Protection and Mitigation. In general, DEQ recommends that the section 404(b)(1) guidelines be followed, and that stream and wetland impacts be avoided to the maximum extent practicable. To minimize unavoidable impacts to wetlands and waterways, DEQ recommends the following practices:

- Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable;
- Erosion and sedimentation controls should be designed in accordance with the most current edition of the *Virginia Erosion and Sediment Control Handbook* (see "Regulatory and Coordination Needs," item 4, below). These controls should be in place prior to clearing and grading, and maintained in good working order to minimize impacts to

State waters. The controls should remain in place until the area is stabilized.

- Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable.
- Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub, or forested). The Army should take all appropriate measures to promote re-vegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed.
- Place all materials which are temporarily stockpiled in wetlands, designated for use for the immediate stabilization of wetlands, on mats, geotextile fabric in order to prevent its entry into State waters. These materials should be managed in a manner that prevents leachates from entering state waters and must be entirely removed within thirty days following completion of the construction activity. The disturbed areas should be returned to their original contours, stabilized within thirty days following removal of the stockpile, and restored to the original vegetated state.
- All non-impacted surface waters within the project or right-of-way limits that are within 50 feet of any clearing, grading, or filling activities should be clearly flagged or marked for the life of the construction activity within that area. The Army should notify all contractors that these marked areas are surface waters where no activities are to occur.
- Measures should be employed to prevent spills of fuels or lubricants into state waters.

6. Historic Structures and Archaeological Resources. According to the Department of Historic Resources (the State Historic Preservation Office for purposes of compliance with section 106 of the National Historic Preservation Act), there are a number of significant historic, architectural, and archaeological resources on or near Fort Belvoir that are listed in or eligible for the National Register of Historic Places. The Draft EIS summarizes “long-term minor adverse impacts” as including “direct and indirect effects to [historic resources’] integrity (i.e., physical harm or change) and direct visual effects to their setting” (Draft EIS, page 4-300, section 4.9.2.2), and acknowledges the Fort Belvoir Historic District (Draft EIS, Table 4.9-6, page 4-301, section 4.9.2.2), *inter alia*.

(a) Historic Properties. According to the Department of Historic Resources, the historic, architectural, and archaeological resources (listed or eligible, as above) include:

- the site of the Belvoir Mansion Ruins and adjacent Fairfax Grave Site (Site 44FX0004);
- the Fort Belvoir Historic District;
- Pohick Church
- Woodlawn Plantation;
- Alexandria Friends' Meeting House;
- Woodlawn Historic District;
- George Washington Gristmill;
- Gunston Hall; and
- Mount Vernon.

Among these sites, the National Park Service has given its highest recognition, that of National Historic Landmark, to Woodlawn Plantation, Mount Vernon, and Gunston Hall.

(b) Historic Properties identified in the Draft EIS. The Draft EIS lists the following properties that may be adversely affected by the BRAC projects:

- Fort Belvoir Historic District;
- Friends' Meeting House and Burial Ground;
- One eligible archaeological site; and
- One potentially eligible archaeological site.

The Department of Historic Resources (DHR) believes that the BRAC actions have the potential to adversely affect more historic properties than just these. In some cases, the impacts that BRAC and related activities would have cannot be anticipated at this time, because implementation plans for the BRAC projects are not fully known. As an example, the Department of Historic Resources understands that the Army is not certain which buildings within the Fort Belvoir Historic District will house specific tenant agencies. In the absence of that knowledge, it is impossible to assess the impacts of possible alterations of the buildings, to address the missions of new tenants, upon contributing buildings within the Historic District.

(c) NEPA and Impact Analysis. The National Environmental Policy Act (NEPA) requires federal agencies to identify and evaluate the full range of impacts that their actions may have on the environment. DHR indicates that the rapid influx of approximately 22,000 additional personnel at the Fort will place

additional strain on an already overburdened transportation infrastructure in Fairfax County (see item 13, below, and the separate comments from Fairfax County). The need for new and affordable housing attributable to the Fort's expansion is likely to require zoning changes, new construction, installation of utilities, and associated development; all of this is likely to affect historic properties beyond the boundaries of Fort Belvoir. Accordingly, the EIS must consider not only the direct consequences of BRAC activities, but also secondary outcomes that might affect cultural resources. These indirect and secondary effects might include:

- auditory and visual impacts from increased automobile traffic;
- new development in communities serving Fort Belvoir;
- diminished access to heritage destinations; and
- new road construction needed to support the increase in Fort population.

(d) Transportation Impacts. DHR states that, as described in the Draft EIS, transportation analysis and design study will continue throughout the planning phase of the BRAC actions, and more details are likely to emerge as the planning process matures. For the purpose of gathering information for the Draft EIS, the Army used the regional travel demand model maintained by the Metropolitan Washington Council of Governments to estimate traffic impacts. While this method may be expedient for the purposes of the Draft EIS, DHR believes that the implications of BRAC on the transportation infrastructure are likely to be greater than first anticipated. Negative effects to historic properties from increased traffic, such as new road construction, will need to be addressed in the Final EIS and mitigated for in the Section 106 process. See also item 13, below, and the separate comments from Fairfax County.

(e) Archaeological Resources. The Department of Historic Resources indicates that additional archaeological evaluation (Phase II investigation) may be necessary to determine the National Register eligibility of sites currently considered potentially eligible (see Draft EIS, page 4-303, section 4.9.2.3.2). The Department understands that Phase II evaluation of Site 44FX1933 has been completed; the Army is requested to submit two copies of the evaluation report (see "Regulatory and Coordination Needs," item 7, below).

The Department of Historic Resources is also interested in the status of the recommendation for archaeological potential, or lack thereof, for the GSA Parcel (see Draft EIS, page 4-289, section 4.9.1.3.1 and page 4-308, section 4.9.4.1.1). See "Regulatory and Coordination Needs," item 7, below.

7. Erosion and Sediment Control; Stormwater Management. Federal agencies and their authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with the Virginia Erosion and Sediment Control Law and its implementing regulations, the Virginia Stormwater Management Law and its implementing regulations, and other applicable federal non-point source pollution mandates (e.g., section 313 of the Clean Water Act, and Federal Consistency requirements (see "Federal Consistency…," below) under the Coastal Zone Management Act). The sponsoring federal agency, in this case the Army, is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and/or other mechanisms consistent with agency policy. See "Regulatory and Coordination Needs," item 4, below.

(a) Erosion and Sediment Control. Erosion and Sediment Control requirements apply to land-disturbing activities that affect 2,500 square feet or more (in Chesapeake Bay Preservation Areas such as the project area; see "Federal Consistency…," item 4, below). Accordingly, the Army should prepare and implement Erosion and Sediment Control Plans for this project to ensure compliance with state law. See "Regulatory and Coordination Needs," item 4, below. The Erosion and Sediment Control requirement is an Enforceable Policy of the Virginia Coastal Resources Management Program; see "Federal Consistency…," item 5, below.

(b) Stormwater Management. Stormwater Management requirements apply to land-disturbing activities that affect a land area of one (1) acre or more. As with the Erosion and Sediment Control Plan, the Army should prepare and implement a Stormwater Management Plan for the project to ensure compliance with state law. The *Virginia Stormwater Management Handbook* published by the Department of Conservation and Recreation should be consulted for specific designs and standards. See "Regulatory and Coordination Needs," item 4, below.

(c) VPDES Stormwater Management General Permit. Development projects which disturb a land area of one acre or more, or projects disturbing between 2,500 square feet and less than 1 acre in Chesapeake Bay Preservation Areas (see "Federal Consistency…," item 4, below) require coverage under the Virginia Pollutant Discharge Elimination System (VPDES) Stormwater General Permit for Construction Activities. See "Regulatory and Coordination Needs," item 5, below.

8. Outdoor Recreation. According to the Department of Conservation and Recreation, the responsibilities of Fairfax County in regard to recreational resources do not extend to federal government facilities. For this reason, the Army must provide recreational facilities to meet the needs of personnel assigned to Fort Belvoir. The Department of Conservation and Recreation supports full development and the upgrades to the MWR Family Travel Camp (Draft EIS, page 2-24).

(a) Comments on Draft EIS. The Draft EIS mentions trail systems and open spaces, but does not mention gyms, pools, activity centers, and ball fields. These features contribute to the quality of life in all communities, according to DCR. The Final EIS should include a recreation section outlining all indoor and outdoor recreation needs (see Draft EIS, pages 1-7 and 1-8, section 1.4.3).

(b) Recommendations. The Department of Conservation and Recreation has the following recommendations in regard to recreation facilities and plans:

- The Final EIS should reflect a plan for how the realigned Fort would provide for recreational needs of 22,000 additional personnel and their families.

- Evaluate the on-base alternatives to vehicular travel by assessing trails for walking and bicycling.

- Evaluate potential passive recreation trails in the environmental corridors discussed in the Draft EIS (see, for example, page 4-11, section 4.2.1.4.1).

- Add gyms, pools, activity centers, and ball fields into the design of the newly realigned Fort.

- Develop a plan for alternative transportation (walking and bicycling) to connect all developed portions of the Fort.

9. Water Supply and Wastewater. All potable water is purchased from the Fairfax County Water Authority, according to the Department of Health. Expanded utilities must comply with the Waterworks Regulations (12 VAC 5-590-10 et seq.) and the Sewage Collection and Treatment Regulations (9 VAC 25-790). See “Regulatory and Coordination Needs,” item 10, below for contact information.

10. Forest and Tree Protection. The Department of Forestry states that it finds limited impact from this project to the forest resources of the Commonwealth.

In order to protect trees in the project area that are not slated for removal from the effects of construction activities associated with this project, the proponent should mark and fence them at least to the dripline or the end of the root system, whichever extends farther from the tree stem. Marking should be done with highly visible ribbon so that equipment operators see the protected areas easily.

Parking and stacking of heavy equipment and construction materials near trees can damage root systems by compacting the soil. Soil compaction, from weight or vibration, affects root growth, water and nutrient uptake, and gas exchange. The protection measures suggested above should be used for parking and stacking as well as for moving of equipment and materials. If parking and stacking are unavoidable, the Army should use temporary crossing bridges or mats to minimize soil compaction and mechanical injury to plants.

Any stockpiling of soil should take place away from trees. Piling soil at a tree stem can kill the root system of the tree. Soil stockpiles should be covered, as well, to prevent soil erosion and fugitive dust.

Questions on tree protection may be directed to the Department of Forestry (Todd Groh, telephone (434) 977-1375, extension 3344).

11. Mineral Resources. According to the Department of Mines, Minerals, and Energy, the BRAC projects at Fort Belvoir will not affect mineral resources.

12. Natural Area Preserves. The Department of Conservation and Recreation indicates that there are no state Natural Area Preserves in the vicinity of the projects.

13. Roads and Transportation. According to the Virginia Department of Transportation (VDOT), the travel forecasting methodology used by the Army's consultant was coordinated with VDOT staff. Given the limited amount of detailed data available, the assumptions are reasonable, in the judgment of VDOT. The Final EIS could address the impact of security checks on queuing, and proposed mitigation measures, in greater detail to provide assurance that such required checks will not adversely affect mainline traffic.

In its detailed comments on the Draft EIS (enclosed with VDOT letter), VDOT expresses several concerns regarding the impact of increased vehicle traffic upon roads and the traffic situation in the area. The situation appears to warrant careful consideration by the Army in the Final EIS and in its planning for the BRAC developments. Several specific concerns appear, in VDOT's judgment:

- The impact on traffic caused by consultants and other people doing business with Fort Belvoir agencies (Draft EIS, page 4-79);

- The impact of security checks on vehicles entering Fort Belvoir on the traffic of surrounding roads during rush hours (Draft EIS, page 4-83, first paragraph);

- The "rideshare facility" needs more description, including location, nature, means of access, security procedures, and whether there will be a bus terminal or transfer station with it (Draft EIS, page 4-85, section 4.3.44);

- Greatly expanded transit service should be considered as a mitigation option, according to VDOT, and it might include shuttle service to the Franconia-Springfield station which now serves Metro and Virginia Rail Express trains (Draft EIS, page 4-88).

For additional insights, see the enclosed VDOT letter and comments.

14. Pollution Prevention. DEQ advocates that principles of pollution prevention be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices (BMPs) will help to ensure that environmental impacts are minimized. However, pollution prevention techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source. We have several pollution prevention recommendations that may be helpful in constructing or operating the Fort Belvoir BRAC projects:

- Consider development of an Environmental Management System (EMS). An effective EMS will ensure that the proposed facility is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program.

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider contractors' commitments to the environment (such as an EMS) when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for infrastructure construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.
- Integrate pollution prevention techniques into facility maintenance and operation, to include the following: inventory control (record-keeping and centralized storage for hazardous materials), product substitution (use of non-toxic cleaners), and source reduction (fixing leaks, energy-efficient HVAC and equipment). Maintenance facilities should be designed with sufficient and suitable space to allow for effective inventory control and preventive maintenance.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. If interested, the Army may contact that Office (Tom Griffin, telephone (804) 698-4545).

15. Regional and Local Comments. Fairfax County is commenting directly to the Army on this Draft EIS. The Northern Virginia Regional Commission was invited to comment.

Federal Consistency under the Coastal Zone Management Act

Pursuant to the Coastal Zone Management Act of 1972, as amended, federal activities located inside or outside of Virginia's designated coastal management area that can have reasonably foreseeable effects on coastal resources or coastal uses must, to the maximum extent practicable, be implemented in a manner consistent with the Virginia Coastal Resources Management Program (VCP). The VCP consists of a network of programs administered by several agencies. The DEQ coordinates the review of federal consistency determinations with agencies administering the Enforceable and Advisory Policies of the VCP.

DEQ published a public notice of this review from March 9, 2007 through March 30, 2007. No comments were received from the public.

Based on the information submitted in the Draft EIS (which contains the consistency determination in Appendix C) and the comments of agencies administering the enforceable policies of the Virginia Coastal Resources Management Program (VCP), the Commonwealth of Virginia objects to the federal consistency determination for the proposed BRAC projects at this time. Pursuant to the Federal Consistency Regulations, 15 CFR Part 930, section 930.43(b), this objection is based on insufficient information needed to determine the consistency of the projects with the Air Pollution Control enforceable policy of the VCP.

Required Information Necessary to Determine Consistency with the Air Pollution Control Enforceable Policy of the VCP

Air Pollution Control: General Conformity. As DEQ's Air Quality Division has indicated (see "Environmental Impacts and Mitigation," item 3(a)(i) above), a general conformity analysis is required for the BRAC projects at Fort Belvoir because the Washington Metropolitan Area, of which Fort Belvoir is a part, is a non-attainment area for two criteria pollutants: the 8-hour ozone standard and the fine particulate standard of the National Ambient Air Quality Standards (NAAQS) (see section 176(c) of the federal Clean Air Act). Analysis by the Air Quality Division indicates that the emission of ozone precursors attributable to the BRAC projects will exceed the general conformity thresholds for the area. For this reason, a determination must be made that the proposed action conforms to the applicable air quality plan and supports the overall goal of air quality standard compliance in the area. To achieve this, the project emission increases must be directly offset by equivalent reductions, or otherwise accounted for in the regional air quality planning process.

(a) Construction Phase Emissions. As indicated above ("Environmental Impacts and Mitigation," item 3(a)(i), above), the construction phase of the BRAC undertaking coincides with a time period in which the Washington area must demonstrate compliance with both the 8-hour ozone and the fine particulate matter NAAQS. However, the Draft EIS offers no proposed mitigation measures to lessen the impact of construction emissions during the critical attainment period. Moreover, the Army's proposed method of demonstrating conformity for the construction phase of the projects has not yet been accepted by EPA Region III for the purpose of demonstrating conformity for this particular project and situation.

DEQ's Division of Air Quality believes that the Army should include, and commit to implement, a construction performance contract plan in the Final EIS. That plan should include all reasonable emission control measures to minimize

the impacts of construction activities related to the project. The measures to be considered should include, but not be limited to:

- The exclusive use of new diesel engine standard-compliant or control device-retrofitted heavy construction equipment;
- Strict restriction of equipment idling times; and
- Restriction or prohibition of construction on days when high ozone levels are predicted in the area. At a minimum, this should be done on predicted "Code Red" ozone days.

(b) Operational Phase Emissions. To fully evaluate air quality impacts from the Fort Belvoir BRAC projects and other BRAC undertakings in the Washington area, the best and most current employment and traffic projections must be compiled and provided to the Metropolitan Washington Council of Governments' Transportation Planning Board. These projections are then incorporated into the next regional transportation conformity determination for the Washington, D.C. non-attainment area. In this way, the overall transportation impact of the BRAC projects can be determined and demonstrated to conform to the State Implementation Plan (SIP).

(c) Applicable Enforceable Policies. The Air Pollution Control enforceable policy of the Virginia Coastal Resources Management Program includes the requirements of the federal Clean Air Act, including section 176(a), cited above.

(d) Summary of Needed Information. As indicated above, we require the following information to allow a determination of the consistency of the proposed BRAC projects with the Air Pollution Control enforceable policy:

- A construction contract performance plan, including measures to minimize air pollutant emissions (see item (a), above); and

- The Army's part of a compilation of traffic and employment projections for incorporation into a conformity determination (see item (b), above).

The Army may provide the information directly to DEQ's Air Division or include it in the Final EIS. In this regard, Fort Belvoir staff and DEQ's Air Quality Division have begun direct discussions, which will continue with a meeting on May 1, 2007. Upon receipt of the requested information, the Air Division will complete its analysis of the federal consistency determination. If the information is provided in the Final EIS, DEQ's office of Environmental Impact Review will conduct the review of the FEIS and the consistency determination concurrently.

If you need clarification about the information requested, please contact DEQ's Air Quality Division (Jim Sydnor, telephone (804) 698-4424 or Tom Ballou, telephone (804) 698-4406). For clarification on the federal consistency requirement and review process, please contact me (telephone (804) 698-4325) or Charlie Ellis of this Office (telephone (804) 698-4488).

(e) Notification Requirement. In accordance with the Federal Consistency Regulations, 15 CFR Part 930, section 930.43(e), the Army must notify DEQ if it decides to proceed, despite our objection, before the project commences.

Other Applicable Enforceable Policies of the VCP

Based on the information submitted and the comments of reviewing agencies, we concur that the proposed activity is consistent with the following enforceable policies of the Virginia Coastal Resources Management Program, provided that the Army and its contractors comply with all applicable requirements.

1. Fisheries Management. According to the Department of Game and Inland Fisheries, the proposed BRAC projects at Fort Belvoir are consistent with the Fisheries Management enforceable policy of the Virginia Coastal Resources Management Program.

2. Wetlands Management. As indicated above (see "Environmental Impacts and Mitigation," item 5(b)), a Virginia Water Protection Permit will be required for projects affecting wetlands and/or surface waters. In order for the projects to be consistent with the Wetlands Management enforceable policy of the Virginia Coastal Resources Management Program, the Army must obtain and comply with the Virginia Water Protection Permits needed for the projects. See "Regulatory and Coordination Needs," item 2, below.

3. Subaqueous Lands Management. The Marine Resources Commission has jurisdiction over any encroachments in, on, or over any state-owned rivers, creeks, or streams in the Commonwealth. If any of the project activities should involve any encroachment channelward of ordinary high water along natural rivers and streams, a permit may be required from the Commission. In that case, the project or projects in question would be consistent with the Subaqueous Lands Management enforceable policy of the Virginia Coastal Resources Management Program if the Army applies for, obtains, and complies with the permit. See "Regulatory and Coordination Needs," item 9, below.

4. Coastal Lands Management. The Chesapeake Bay Preservation Act

(*Virginia Code* sections 10.1-2100 et seq.), as locally implemented through the Fairfax County Chesapeake Bay Preservation Ordinance, strictly controls land disturbance in environmentally sensitive lands.

(a) Definitions and Related Requirements.

(i) Definitions. Resource Protection Areas (RPAs) include the following:

- tidal wetlands;
- non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or perennial water bodies;
- tidal shores; and
- areas within a 100-foot vegetated buffer adjacent to and landward of any of the above-listed features and along both sides of any water body with perennial flow.

Resource Management Areas (RMAs) are all other land areas, which are subject to the County's jurisdiction-wide performance criteria for development activities.

(ii) Requirements. RPAs and RMAs are subject to general performance criteria found in the Chesapeake Bay Preservation Area Designation and Management Regulations (9 VAC 10-20-10 et seq.; see 9 VAC 10-20-120). These include the following requirements:

- minimize land disturbance;
- preserve indigenous vegetation;
- minimize post-development impervious surfaces;
- satisfy stormwater management criteria consistent with the water quality protection provisions of the Virginia Stormwater Management Regulations (4 VAC 50-60); and
- for land disturbance over 2,500 square feet, comply with the requirements of the *Virginia Erosion and Sediment Control Handbook* (DCR, Third Edition, 1992).

Note that the only land-disturbing activities allowed in RPAs are those associated with:

- Construction of water wells;
- Construction of passive recreation facilities such as boardwalks, trails, and pathways; and
- Historic preservation and archaeological activities.

In addition, the development criteria for RPAs limit land development therein (see the Chesapeake Bay Preservation Area Designation and Management Regulations at 9 VAC 10-20-130.1). Such development is allowed, subject to approval by the local government, only if:

- It is water-dependent (a development that cannot exist outside of the RPA and must be located on the shoreline due to its nature: ports, power plant intakes and outfalls, water and sewage treatment plants, marinas, beaches, and marine resources facilities; see 9 VAC 10-20-40);

- It constitutes re-development;

- It constitutes development or re-development within a designated "Intensely Developed Area;"

- It is a new use in the nature of a permitted encroachment, as defined (9 VAC 10-20-130.4.a.);

- It is a road or driveway crossing satisfying certain conditions (no reasonable alternatives, *etc.*; see 9 VAC 10-20-130.1.d.);

- It is a flood control or stormwater management facility meeting certain conditions (minimum necessary size, approved stormwater program, *etc.*; see 9 VAC 10-20-130.1.e.).

(b) Analysis. The Draft EIS indicates that Fort Belvoir has approximately 1,984 acres of RPAs (page 4-223, section 4.7.1.5.1). It also indicates that approximately 14 acres of RPAs would be affected, in that seven proposed projects that are part of BRAC development would encroach into RPAs. The Draft EIS indicates that roads may be constructed in RPAs if certain conditions are met (page 4-231, section 4.7.2.3.2, Table 4.7-10). The federal consistency determination indicates that the encroachments would be limited to roads and utility corridors (Draft EIS, Appendix C, page C-9, "Coastal Lands Management" heading in chart).

The Draft EIS also indicates that riparian areas indicated on the water resources map (Figure 4.7-1, page 4-205) represent areas within 35 feet of intermittent or perennial streams, *inter alia* (page 4-223, section 4.7.1.5.1). Under the Regulations, Resource Protection Areas include perennial streams and a buffer of at least 100 feet, not 35 feet, landward of same (see item 4(a)(i) above and 9 VAC 10-20-80.B in the Regulations.)

(c) Chesapeake Ecosystem Unified Plan. The 1998 Federal Agencies' Chesapeake Ecosystem Unified Plan requires the signatories, including the Department of Defense/Army, to fully cooperate with local and state governments in carrying out voluntary and mandatory actions to comply with the management of stormwater. In that *Plan,* the agencies also committed to encouraging construction design that:

- minimizes natural area loss on new and rehabilitated federal facilities;
- adopts low-impact development and best management technologies for storm water, sediment and erosion control, and reduces impervious surfaces; and
- considers the *Conservation Landscaping and Bay-Scapes Guide for Federal Land Managers*.

The general performance criteria exempt silvicultural activities in Chesapeake Bay Preservation Areas, provided that silvicultural operations adhere to water quality protection procedures prescribed by the Virginia Department of Forestry in its *Forestry Best Management Practices for Water Quality in Virginia Technical Guide* (1997) (see the Regulations at 9 VAC 10-20-120.10). The *Technical Guide* specifically recommends:

> … all Streamside Management Zones (SMZs) be a minimum of 50 feet in width, measured from the top of the stream bank. This 50-foot SMZ is a managed forest; within this managed area up to 50% of the basal area or up to 50% of the forest canopy can be harvested.

(d) Chesapeake 2000 Agreement. The *Chesapeake 2000 Agreement* committed the government agency signatories to a number of sound land use and stormwater quality controls. The signatories additionally committed their agencies to lead by example with respect to controlling nutrient, sediment and chemical contaminant runoff from government properties. In December 2001, the Executive Council of the Chesapeake Bay Program issued *Directive No. 01-1, Managing Storm Water on State, Federal and District-owned Lands and Facilities*, which includes specific commitments for agencies to lead by example with respect to stormwater control.

(e) Conclusion on Coastal Lands Management Consistency. Provided that the BRAC projects at Fort Belvoir are in compliance with the following three requirements as well as the foregoing recommendations and requirements, the Division of Chesapeake Bay Local Assistance concurs that the projects are consistent with the Coastal Lands Management enforceable policy of the Virginia Coastal Resources Management Program. The requirements are:

- Part IV, Land Use and Development Performance Criteria, Chesapeake Bay Preservation Area Designation and Management Regulations, 9 VAC 10-20-110 et seq.;

- Stormwater management criteria consistent with water quality protection provisions (4 VAC 50-60-60 et seq.) of the Virginia Stormwater Management Regulations (4 VAC 50-60 et seq.); and

- *Virginia Erosion and Sediment Control Handbook* (Third Edition, 1992).

5. Non-point Source Pollution Control. The Erosion and Sediment Control Plan requirement applies to projects involving land disturbance of 2,500 square feet or more in Chesapeake Bay Preservation Areas. The following activities are subject to the Plan requirement:

- clearing and grading activities
- installation of staging areas, parking lots, roads, buildings, utilities, or other structures
- soil/dredge spoil areas, and
- related land conversion activities.

Questions may be directed to the appropriate Watershed Office of the Department of Conservation and Recreation. See "Regulatory and Coordination Needs," item 4, below.

Plan development, approval, and compliance would make the project consistent with the Non-point Source Pollution Control enforceable policy of the Virginia Coastal Resources Management Program.

6. Point Source Pollution Control. DEQ's Northern Virginia Regional Office recommends that the Army ensure that capacity for anticipated sanitary wastes is available at Fairfax County's Noman Cole Wastewater Reclamation Plant (WWRP). New sanitary sewer lines and pump stations are subject to review and approval by DEQ prior to construction. The Army must obtain and comply with Virginia Pollutant Discharge Elimination System (VPDES) permits for such facilities in order to make them consistent with the Point Source Pollution Control enforceable policy of the Virginia Coastal Resources Management Program. See "Regulatory and Coordination Needs," item 2, below.

Regulatory and Coordination Needs

1. Air Quality Regulation.

(a) Regulatory Requirements for Construction. As stated above ("Environmental Impacts and Mitigation," item 3(b)(iv)), the construction projects should be accomplished in full compliance with current and pending Virginia regulatory requirements, through the use of compliant practices and/or products. These requirements appear in 9 VAC 5, Chapter 40 (existing stationary sources), Part II (emission standards) of the Virginia Regulations for the Control and Abatement of Air Pollution. They are:

Article 1, Visible emissions and fugitive dust and emissions (9 VAC 5-40-60 et seq.);
Article 39, Asphalt paving operations (9 VAC 5-40-5490 et seq.);
Article 40, Open burning (9 VAC 5-40-5600 et seq.);
Article 42, Portable fuel containers (9 VAC 5-40-5700 et seq.);
Article 49, Architectural and industrial maintenance coatings (9 VAC 5-40-7120 et seq.); and
Article 50, Consumer products (9 VAC 5-40-7240 et seq.).

The portable fuel container and consumer products rules (Articles 42 and 50) are being revised, and more restrictive requirements will be in effect no later than 2009. This listing is not all-inclusive; the Army and any contractors should ensure compliance with all applicable Virginia air pollution control regulations.

Irrespective of whether stationary sources are above or below the major source threshold, one or more air pollution control permits will be required for the projects.

(b) Coordination. Once the final project plan is selected, the Army should submit applications to DEQ's Northern Virginia Regional Office. Questions regarding air quality compliance and permit applicability may be directed to that Office (Mr. Terry Darton, Air Permit Manager, telephone (703) 583-3845).

2. Water Quality Regulation. As indicated above ("Environmental Impacts and Mitigation," item 5(b)), Virginia Water Protection Permits will be required for project impacts to surface waters. Wetland impacts will also require these permits. The Army should contact DEQ's Northern Virginia Regional Office (Tom Faha, Water Permits Manager, telephone (703) 583-3846) to pursue appropriate permits governing surface water and wetland impacts.

3. Wildlife Protection. The Army is requested to coordinate with the Department of Game and Inland Fisheries (start with Amy Martin, telephone (804) 367-2211) regarding the siting of the MWR ("Morale, Welfare, and Recreation") Family Travel Camp project, because of its proximity to potential bald eagle nesting areas and to important hunting areas (see "Environmental Impacts and Mitigation," item 2(c), above). In addition, the Army is requested to coordinate with the Department relative to the following issues discussed above ("Environmental Impacts and Mitigation," items 1 and 2, sub-paragraphs indicated):

- Managing wildlife through hunting activity (item 2(e))
- Effects of projects on anadromous fish waters (item 2(f)(ii);
- Effects of projects on bald eagles and nests (item 2(g)(i). For projects which may affect bald eagles, the Army must also coordinate with the U.S. Fish and Wildlife Service (Eric Davis, Virginia Field Office, telephone (804) 693-6694, extension 104).
- Effects of projects on wood turtles (items 1(c) and 2(g)(ii));
- Effects of projects on shortnose sturgeon habitat (item 2(g)(v));
- Planning for, and effects of, the proposed MWR Family Travel Camp (item 2(c), on bald eagle habitat in particular (item 2(g)(i); and
- Effects of projects on wildlife habitat in general.

In addition, the Army is requested to coordinate with the Department of Game and Inland Fisheries and the U.S. Fish and Wildlife Service (see contact information above) with regard to avoiding the habitat of the small whorled pogonia (see "Environmental Impacts and Mitigation," item 1(b)(i), above).

4. Erosion and Sediment Control; Stormwater Management. Erosion and Sediment Control requirements stem from the Virginia Erosion and Sediment Control Law, *Virginia Code* section 10.1-567; Stormwater Management Plan requirements stem from the Virginia Stormwater Management Law, *Virginia Code* section 10.1-603.15. The Army must comply with these rules governing erosion and sediment control and stormwater management; as mentioned above, the erosion and sediment control requirement is an enforceable policy of the Virginia Coastal Resources Management Program ("Federal Consistency," item 7). The Army is encouraged to contact the Department of Conservation and Recreation's Potomac Watershed Office (Gary Switzer, telephone (540) 347-6420 for erosion and sediment control, and Shelby Hertzler, telephone (540) 351-1589 for stormwater management) and/or local erosion and sediment control and stormwater management officials to obtain assistance in plan development and implementation, and to ensure that controls are in compliance with applicable requirements during and after construction of the project.

The Department of Conservation and Recreation publishes the *Virginia Erosion and Sediment Control Handbook* and the *Virginia Stormwater Management Handbook*. See the Department's web site at http://www.dcr.virginia.gov/soil_&_water for additional information.

5. VPDES Stormwater Management General Permit. As mentioned above ("Environmental Impacts and Mitigation," item 7(c)), the VPDES Stormwater General Permit is required for land disturbances of 2,500 square feet or more but less than one (1) acre in Chesapeake Bay Preservation Areas. General information and registration forms for this general permit are available on the Department of Conservation and Recreation's web site: http://www.dcr.virginia.gov/soil_&_water/vsmp/shtml. The Army may direct specific questions on this requirement to the Department of Conservation and Recreation's Division of Soil and Water Conservation (Holly Sepety, telephone (804) 225-2613).

6. Solid and Hazardous Waste Management.

(a) Contamination. Any soil suspected of contamination, or wastes that are generated, must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. These include, but are not limited to, the Virginia Waste Management Act (*Virginia Code* sections 10.1-1400 et seq.), the Virginia Hazardous Waste Management Regulations (9 VAC 20-60), and the Virginia Solid Waste Management Regulations (9 VAC 20-80). (See the enclosed DEQ memo, Kohler to Ellis, dated March 27, 2007 for additional citations.) Sampling in accordance with the Hazardous Waste Management Regulations may need to be done on unknown material, such as in the Engineering Proving Grounds (EPG). The Army should also continue using appropriate EPA identification numbers for each specific parcel (i.e., EPG, GSA Parcel, or main base) for tracking hazardous waste.

(b) CERCLA Responsibilities. DEQ's Waste Division, Federal Facilities Restoration Program recommends that the Army contact Fort Belvoir's Environmental and Natural Resources Division (Ms. Laura Curtis, telephone (703) 806-0024) for information concerning CERCLA obligations at the Main Post and EPG. This contact is also recommended as pre-requisite to any disturbance of land, sediment, or groundwater at or near Military Munitions Restoration Program sites, Solid Waste Management Units at the Main Post or EPG, or Areas of Potential Concern at EPG (see the discussion of the Historical Records Review, "Environmental Impacts and Mitigation," item 4(c), above).

(c) Solid Waste Permitting. The Army should contact DEQ's Northern Virginia Regional Office (Richard Doucette, telephone (703) 583-3813) for questions relating to any of the four solid waste management facilities with solid waste permits in hand or in process (see "Environmental Impacts and Mitigation," item 4(d), above). Similarly, for any new solid waste management facilities, the Army should contact the Regional Office, above.

Note that if the material is a solid waste, the waste generator, in this case the Army, has the responsibility for determining whether the waste is hazardous. This can be accomplished by applying the knowledge of the generator of the material, such as using information from the label of a container, or by sampling the material in accordance with the Virginia Hazardous Waste Management Regulations (see item 6(a), above).

(d) Demolition or Renovation of Structures. Any structures to be demolished, renovated, or removed should be checked beforehand for asbestos-containing materials and lead-based paint. If asbestos-containing materials are found, the Army must follow the requirements of 9 VAC 20-80-640 as well as other requirements in the Solid Waste Management Regulations cited above (item 6(a)). Similarly, if lead-based paints are found, the Army must follow the requirements of 9 VAC 20-60-261 as well as other requirements in the Hazardous Waste Management Regulations.

Additional information on asbestos may be obtained from the Department of Labor and Industry (Ronald Graham, telephone (804) 371-0444). Additional information on lead-based paint may be obtained from the Department of Professional and Occupational Regulation (David Dick, telephone (804) 367-8595).

7. Historic Resources Coordination. To ensure compliance with section 106 of the National Historic Preservation Act, the Army is requested to contact the Department of Historic Resources (Marc Holma, telephone (804) 367-2323, extension 114), with regard to the archaeological potential of the GSA Parcel and the evaluation report and recommendation stemming from the Phase II evaluation of Site 44FX 1933 (see "Environmental Impacts and Mitigation," item 6(e), above). The Phase II evaluation report and recommendation should be submitted in two copies to:

Mr. Marc Holma
Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221.

The submissions and consultation should refer to DHR file number 2006-0820.

8. Roads and Transportation. Any VDOT land use requirements, lane closures, traffic control, or work zone safety issues should be closely coordinated with Fairfax County (start with the Department of Planning and Zoning, Noel Kaplan, telephone (703) 324-1210) and with VDOT's Northern Virginia District Office (telephone (703) 383-2888).

9. Subaqueous Lands Encroachment. As mentioned above ("Federal Consistency…," item 3), a permit may be required from the Marine Resources Commission for any project encroachment channelward of ordinary high water along natural rivers and streams. Inquiries regarding Marine Resources Commission permitting applicability and procedures may be directed to the Commission (Elizabeth Gallup, telephone (757) 247-2200).

10. Recreation. Questions regarding the recommendations on recreation facilities ("Environmental Impacts and Mitigation," item 8, above) may be directed to the Department of Conservation and Recreation (Robert Munson, telephone (804) 786-6140). The Family Travel Camp proposal should also be discussed with the Department of Game and Inland Fisheries (see "Regulatory and Coordination Needs," item 3, above) because of the proximity of the site to potential wildlife habitat.

11. Water Supply and Wastewater Coordination.

(a) Water Supply. Inasmuch as potable water is to be purchased from the Fairfax County Water Authority, the Army should consult with the County (start with the Department of Planning and Zoning, attn: Noel Kaplan, telephone (703) 324-1210)) regarding any additional water supply needs; the existing purchase contract may need to be revised. Water supply facilities must also be in compliance with Virginia's Waterworks Regulations (12 VAC 5-590-10 et seq.). Information on development of water supply facilities is available from the Department of Health's Culpeper Field Office (Hugh Eggborn, Director, telephone (540) 829-7340).

(b) Wastewater. Expansion of wastewater facilities would need to comply with Virginia's Sewage Collection and Treatment Regulations (9 VAC 25-790 et seq.). Information on compliance with these regulations is available from DEQ's Northern Virginia Regional Office (Tom Faha, Water Permits Manager, telephone (703) 583-3846). The Army should also check with the County (contact information above) regarding the capacity of the existing facility to take additional wastewater.

12. Local Coordination. DEQ recommends that the Army consult fully with Fairfax County in particular (start with the Department of Planning and Zoning, attn: Noel Kaplan, telephone (703) 324-1210) regarding planning for and implementing the BRAC projects.

Thank you for the opportunity to review this Draft EIS. Detailed comments of reviewers are attached. We look forward to reviewing the Final EIS. If you have questions about these comments, please feel free to call me (telephone (804) 698-4325) or Charles Ellis of this Office (telephone (804) 698-4488).

Sincerely,

Ellie L. Irons
Program Manager
Office of Environmental Impact Review

Enclosures
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